

Having described the invention, the following is claimed:

1. An apparatus comprising:

a longitudinal member connectable with a bone portion;

a fastener having a longitudinal axis and engageable with the bone portion to connect said longitudinal member to the bone portion;

a housing having a first passage configured to receive said longitudinal member, said housing having a second passage with a longitudinal axis extending transverse to said first passage, said fastener extending through an opening in said housing into said second passage and being movable relative to said housing, said longitudinal axis of said fastener being positionable in any one of a plurality of angular positions relative to said longitudinal axis of said second passage;

a spacer received in said second passage of said housing and engageable with said fastener and said longitudinal member;

10075656 601302

a member that applies a force to prevent relative movement between said fastener and said housing when said longitudinal member is disengaged from said spacer and said spacer engages said fastener, said fastener and said housing being manually movable relative to each other against said force when said longitudinal member is disengaged from said spacer and said member applies said force; and

a clamping mechanism that clamps said longitudinal member, said spacer and said housing to said fastener to prevent movement of said fastener relative to said housing.

2. An apparatus as defined in claim 1 wherein said member is a compressible member.

3. An apparatus as defined in claim 1 wherein said member is a spring member engaging said housing and said spacer.

4. An apparatus as defined in claim 3 wherein said member includes a ring member extending into a groove in said spacer and a groove in said housing.

5. An apparatus as defined in claim 4 wherein said ring member has a gap to permit radial contraction and radial expansion of said ring member.

6. An apparatus as defined in claim 5 wherein said spacer includes axially extending slots that receive a tool for inserting said spacer and said ring member into said housing, said slots intersecting said groove in said spacer to permit engagement of said tool with said spring member to radially contract said spring member into said groove in said spacer.

7. An apparatus as defined in claim 4 wherein said ring member is arched when said ring member is disengaged from said housing and said spacer.

8. An apparatus as defined claim 1 wherein said fastener includes a first part spherical surface engageable with a part spherical surface of said housing.

9. An apparatus as defined in claim 8 wherein said fastener includes a second part spherical surface engageable with said spacer.

10. An apparatus as defined in claim 9 wherein said fastener includes a surface engageable with said spacer to limit relative movement between said fastener and said housing.

11. An apparatus as defined in claim 10 wherein said second part spherical surface has a diameter smaller than a diameter of said first part spherical surface, said surface engageable with said spacer to limit relative movement between said fastener and said housing extending between said first and second part spherical surfaces.

12. An apparatus as defined in claim 1 wherein said spacer has an opening through which a tool extends to engage said fastener when said longitudinal member is disengaged from said spacer.

13. An apparatus as defined in claim 1 wherein said spacer includes slots that receive a tool for inserting said spacer into said housing.

14. An apparatus as defined in claim 1 wherein said clamping mechanism includes a threaded member threadably engageable with said housing.

15. An apparatus as defined in claim 14 wherein said threaded member engages said longitudinal member to clamp said longitudinal member against said spacer.

16. An apparatus as defined in claim 14 wherein said threaded member and said housing have a buttress thread.

17. An apparatus comprising:

a longitudinal member connectable with a bone portion;

a fastener having a longitudinal axis and engageable with the bone portion to connect said longitudinal member to the bone portion;

a housing having a first passage configured to receive said longitudinal member, said housing having a second passage with a longitudinal axis extending transverse to said first passage, said fastener extending through an opening in said housing into said second passage and being movable relative to

said housing, said longitudinal axis of said fastener being positionable in any one of a plurality of angular positions relative to said longitudinal axis of said second passage;

a spring member that applies a force to prevent relative movement between said fastener and said housing, said fastener and said housing being manually movable relative to each other against said force when said spring member applies said force; and

a clamping mechanism that clamps said longitudinal member and said housing to said fastener to prevent movement of said fastener relative to said housing.

40075660-000000